

OPERATING SUMMARY

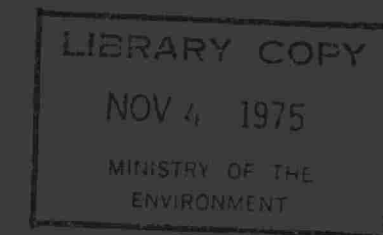
TOWN OF
HALTON HILLS

GEORGETOWN

WATER POLLUTION CONTROL PLANT

TD227
G46
W38
1974
MOE

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HALTON HILLS

GEORGETOWN

WATER POLLUTION CONTROL PLANT

operated for

THE TOWN OF HALTON HILLS

by the

MINISTRY OF THE ENVIRONMENT

1974 ANNUAL OPERATING SUMMARY

prepared by
Plant Performance Unit
TECHNICAL SERVICES BRANCH
T. Cross, Director

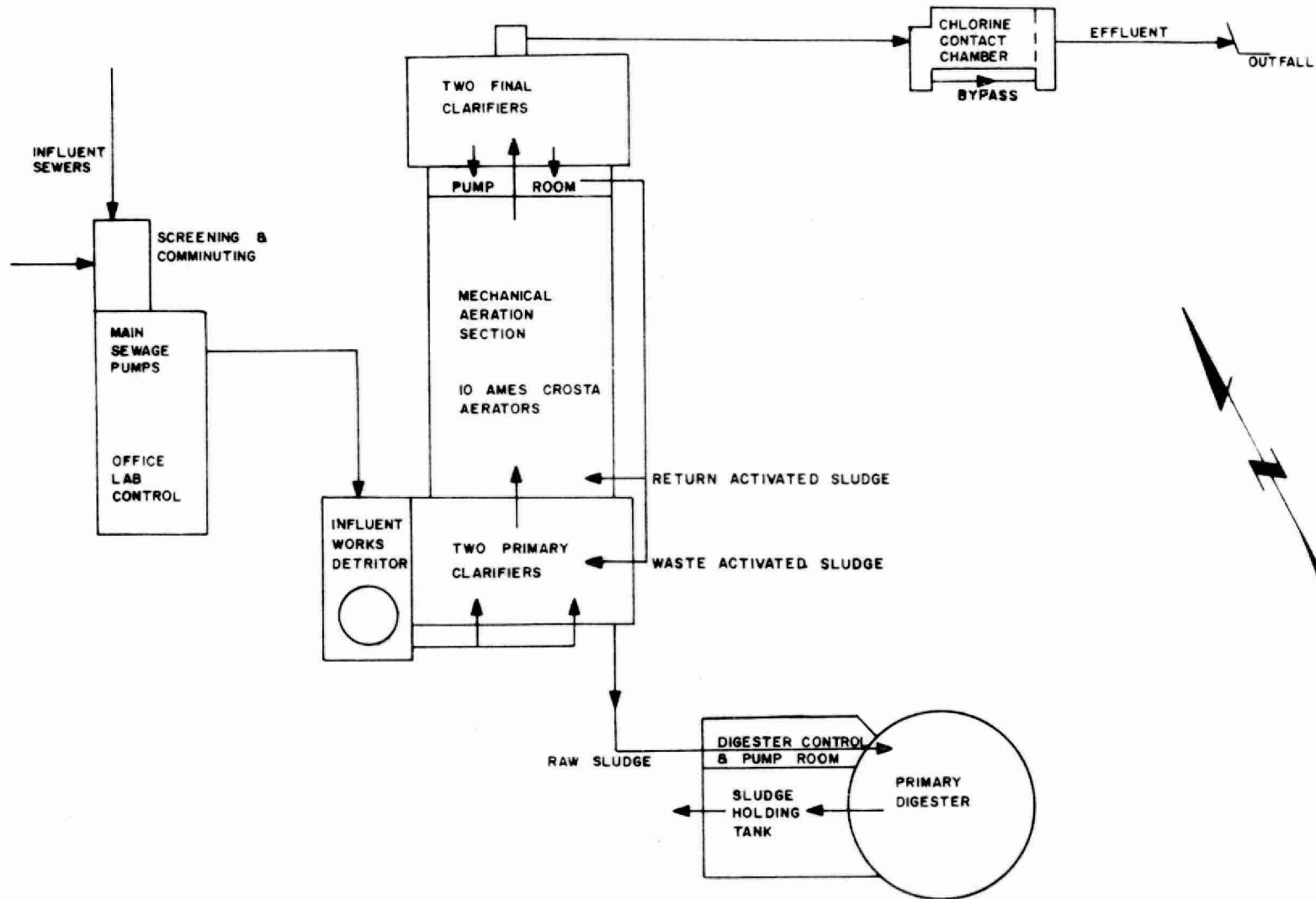
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TOWN OF HALTON HILLS
(GEORGETOWN) WPCP



DESIGN DATA

PROJECT Town of Halton Hills
(Georgetown) WPCP

PROJECT NO. 2-0017-58
TREATMENT Activated Sludge
DESIGN FLOW 1.50 mgd
DESIGN POPULATION 15,000
BOD - Raw Sewage 200 mg/l
- Removal 95%
SS - Raw Sewage 200 mg/l
- Removal 95%

PRIMARY TREATMENT

Screening

Type: Manually cleaned bar screen
Size: 3/4" spacing

Comminution

Type: C. P. Barminutor
Size: One Model C (24")

Sewage Lift Pumps

Type: Chicago Pump
Size: Two 2,900 gpm @ 60' tdh

Grit Removal

Type: Dorr Type WA Detritor
Size: One 12' x 12' x 1' 3" (1,120 gal)
Retention: 1.1 min

Primary Sedimentation

Type: Dorr Type A
Size: Two 35' x 35' x 10' swd
(24,500 cu ft or 153,000 gal)
Retention: 2.5 hours
Loading: Surface, 612 gal/ft²/day
Weir, 5,360 gal/ft/day

SECONDARY TREATMENT

Aeration Tanks

Type: Mechanical aeration; single-pass
Size: Two 112' x 28' x 13.25' (79,400
cu ft or 0.495 mil gal)
Retention: 7.9 hours

Aerators

- Eight Ames-Crosta

Secondary Sedimentation

Type: Dorr Type AZ
Size: Two 40' x 40' x 10' swd (32,000
cu ft or 200,000 gal)
Retention: 3.2 hours
Loading: Surface, 470 gal/ft²/day
Weir, 4,700 gal/ft/day

CHLORINATION

- One W & T 200 lb/day

Chlorine Contact Chamber

Size: One 45' x 15' x 6' deep (27,000 gal)
Retention: 26 min

OUTFALL

- to Silver Creek

SLUDGE HANDLING

Digestion System

Type: Two-stage

Primary --

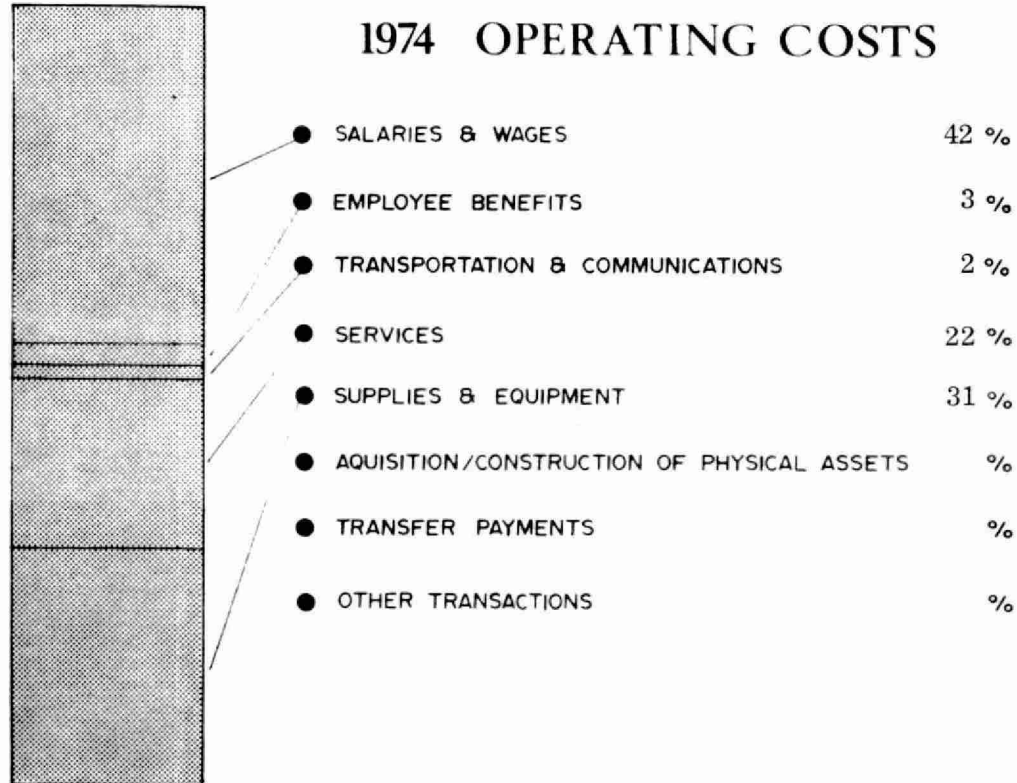
Type: Dorr draft tube mixers (3) on
fixed steel roof
Size: One 66' dia x 22.6' (avg) (77,800
cu ft or 485,000 gal)
Loading: 1.1 lb/cu ft/mo

Secondary --

Size: One 34' x 34' x 16.25' (20,700 cu
ft or 129,000 gal)
Total Loading: 0.87 lb/cu ft/mo

ANNUAL COSTS

1974 OPERATING COSTS



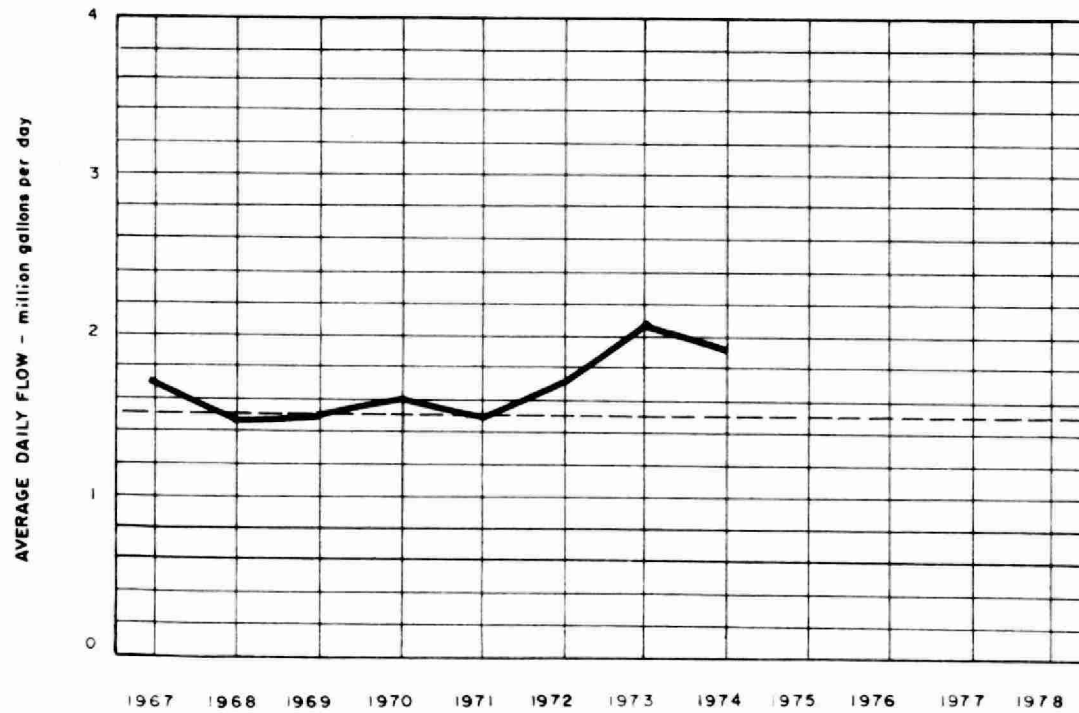
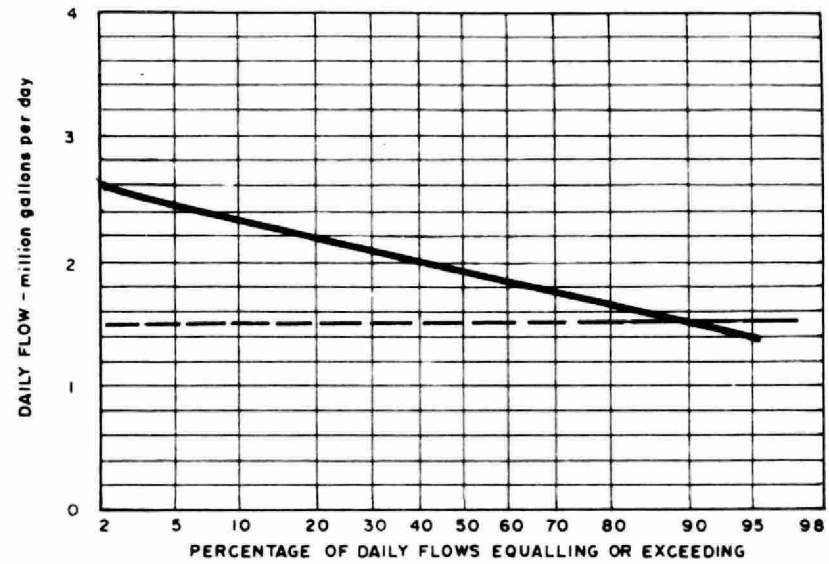
YEARLY OPERATING COSTS

YEAR	SEWAGE TREATED in million gallons	TOTAL OPERATING COSTS	UNIT COSTS	
			\$/M.G	¢/lb BOD
1969	478	48,582	102	16
1970	597	49,195	82	9
1971	552	55,812	101	12
1972	622*	65,461	105	12
1973	767*	87,987	115	10
1974	671	93,243	139	15

OPERATING EXPENDITURES

Regular Staff	\$ 34352	\$
Casual (Unclassified) Staff	4212	
TOTAL SALARIES AND WAGES		38564
TOTAL EMPLOYEE BENEFITS		3211
TOTAL TRANSPORTATION AND COMMUNICATIONS		2123
Insurance	1890	
Sludge Haulage	12868	
Repairs and Maintenance	5280	
Other Services	148	
TOTAL SERVICES		20186
Machinery and Equipment	6667	
Chemicals	3681	
Utilities	14055	
Other Supplies and Equipment	4756	
TOTAL SUPPLIES AND EQUIPMENT		29159
TOTAL AQUISITION/CONSTRUCTION OF PHYSICAL ASSETS		
TOTAL TRANSFER PAYMENTS		
OTHER TRANSACTIONS		
GRAND TOTAL	GRAND TOTAL	\$ 93243

PROCESS DATA FLOWS

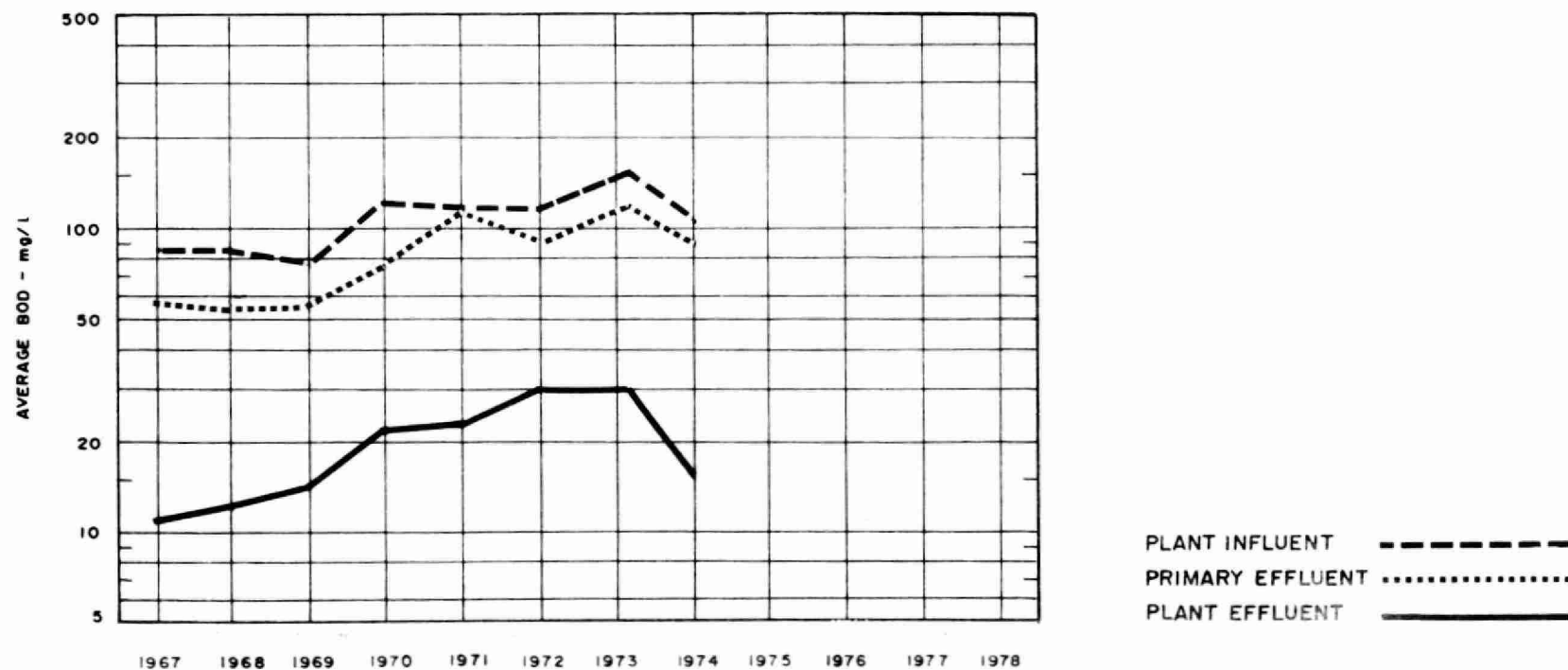
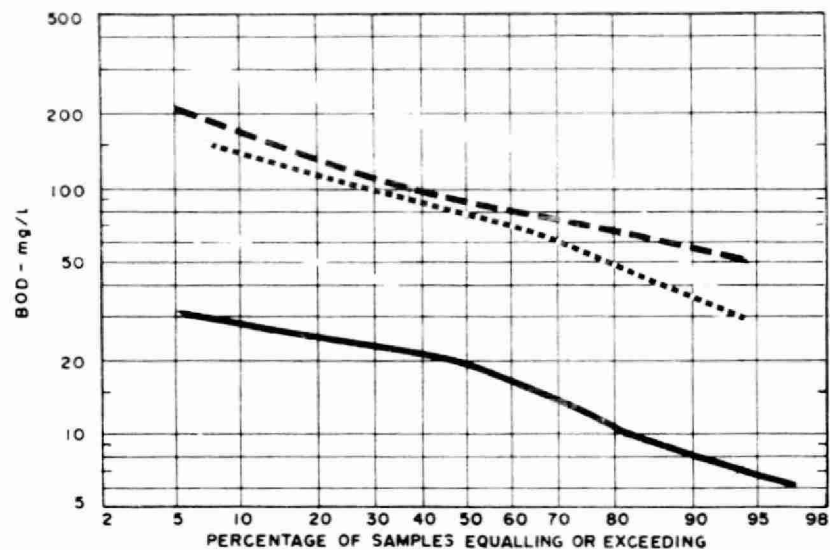


DESIGN CAPACITY - - - - -

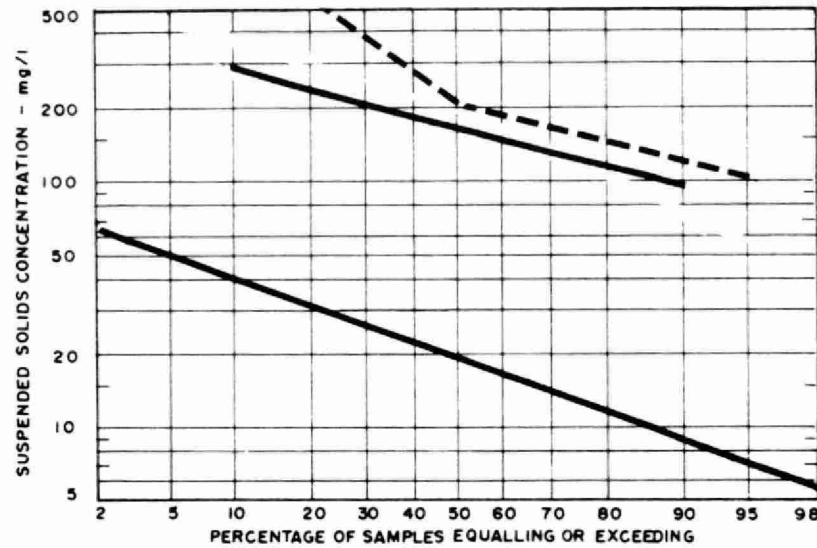
PLANT PERFORMANCE

MONTH	FLOWS			BIOCHEMICAL OXYGEN DEMAND				SUSPENDED SOLIDS				PHOSPHORUS	
	TOTAL FLOW million gallons	AVERAGE DAY mil. gal	MAXIMUM DAY mgd	INFLUENT mg/l	EFFLUENT mg/l	REDUCTION		INFLUENT mg/l	EFFLUENT mg/l	REDUCTION		INFLUENT mg/l P	EFFLUENT mg/l P
						%	10 ³ pounds			%	10 ³ pounds		
JAN	60.0	1.9	2.4	130	10	92	72	157	25	84	79	6.3	3.5
FEB	55.3	2.0	2.2	160	10	94	83	226	20	91	114	5.8	3.0
MAR	63.8	2.1	2.7	74	10	86	41	280	25	91	162	2.8	1.5
APR	66.4	2.2	2.6	83	15	82	45	183	21	89	108	5.1	3.7
MAY	69.0	2.2	2.6	90	10	89	55	104	28	73	52	-	-
JUNE	58.0	1.9	2.3	-	-	-	-	555	10	98	316	-	-
JULY	54.5	1.8	2.0	80	22	73	32	272	10	96	142	5.3	2.9
AUG	50.9	1.6	1.8	80	20	75	31	398	17	96	193	6.0	2.6
SEPT	46.2	1.5	1.8	130	34	74	44	312	14	96	138	8.0	3.5
OCT	48.6	1.6	2.0	116	20	83	47	267	20	93	120	9.0	1.2
NOV	50.1	1.7	2.9	85	20	76	33	350	24	93	163	5.7	3.9
DEC	48.1	1.6	1.9	140	22	84	57	236	30	87	99	7.0	3.3
TOTAL	670.9	-	-	-	-	-	-	-	-	-	-	-	-
AVG.	55.9	1.8	MAXIMUM 2.9	107	17	84	55	244	21	91	125	6.2	3.0
No. of Samples	-	-	-	15	15	-	-	82	45	-	-	13	12

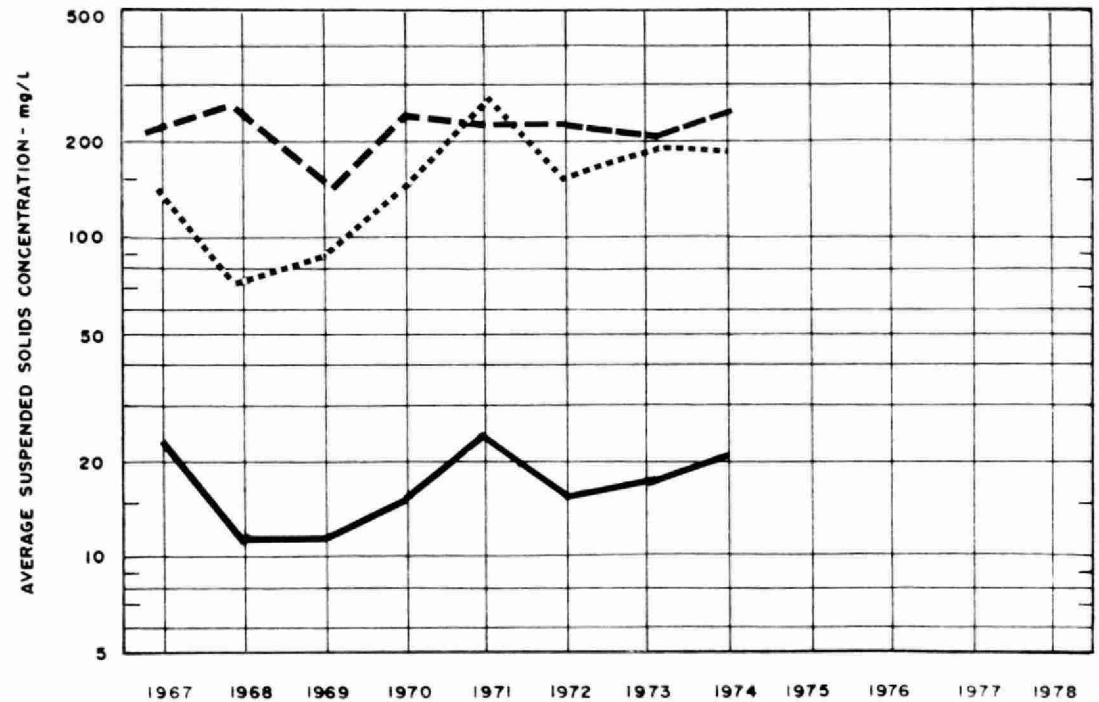
BIOCHEMICAL OXYGEN DEMAND



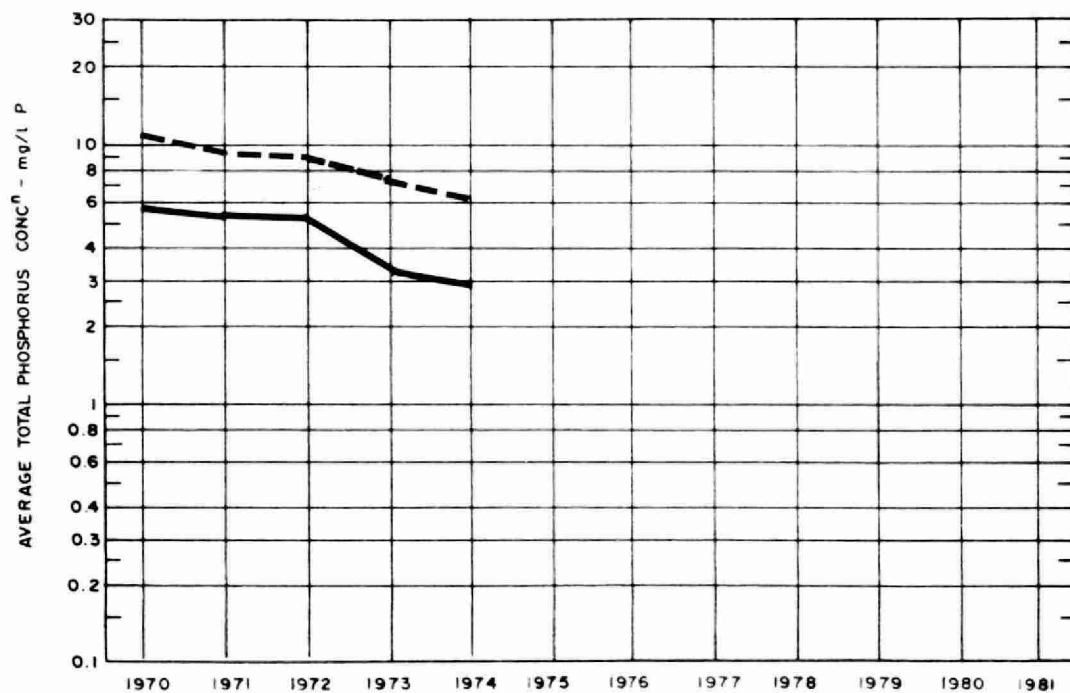
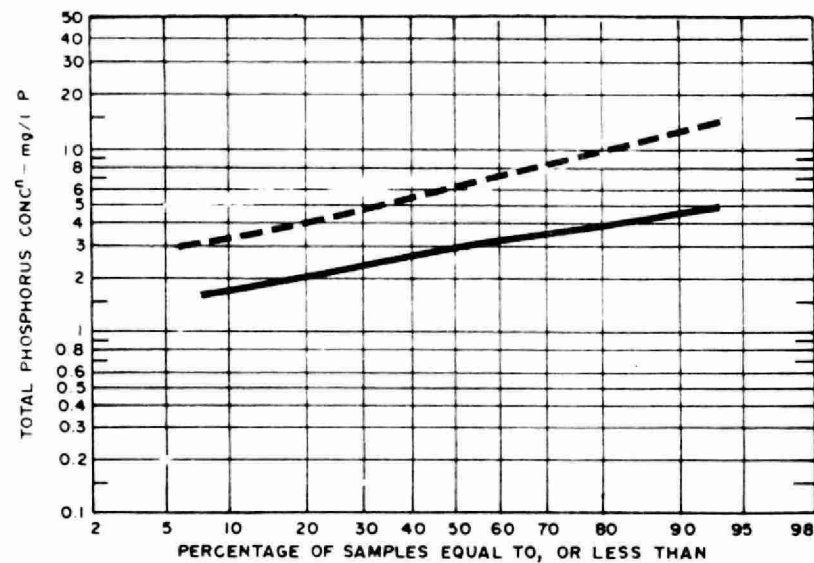
SUSPENDED SOLIDS



PLANT INFLUENT - - - - -
 PRIMARY EFFLUENT
 PLANT EFFLUENT —————



PHOSPHORUS



PLANT INFLUENT

PLANT EFFLUENT

TREATMENT DATA

MONTH	GRIT	CHLORINATION		PRIMARY EFFLUENT		AERATION			SLUDGE DIGESTION and DISPOSAL							
	QUANTITY REMOVED cubic feet	CL ₂ USED 10 ³ pounds	AVG. DOSE mg/l	BOD mg/l	SUSPENDED SOLIDS mg/l	MLSS CONC mg/l	F/M day ⁻¹	AIR 1000 ft ³ lb BOD	RAW SLUDGE			DIGESTED SLUDGE			SUPER- NATANT T. S. %	AMOUNT HAULED cubic yards
									QUANTITY 10 ⁵ gallons	TOTAL SOLIDS %	VOL. SOLIDS %	QUANTITY 10 gallons	TOTAL SOLIDS %	VOL. SOLIDS %		
JAN	49	2.0	3.3	160	145	2500	.23		1.1	5.8	31		-	-	-	1351
FEB	45	1.9	3.4	115	166	3400	.13		1.1	11.5	48		-	-	-	1225
MAR	35	1.4	2.3	69	130	3000	.09		1.8	7.8	48		-	-	-	928
APR	21	1.6	2.4	93	163	2500	.16		1.0	9.1	38		-	-	-	549
MAY	38	1.7	2.4	85	170	2700	.13		3.2	9.6	40		-	-	-	979
JUNE	11	1.8	3.1	-	180	2900	-		2.1	-	-		-	-	-	1023
JULY	18	1.8	3.3	60	198	2700	.08		1.6	7.6	40		-	-	-	1095
AUG	20	1.6	3.1	65	245	3000	.07		0.9	6.9	41		-	-	-	1031
SEPT	38	1.6	3.5	110	148	2800	.11		1.4	7.0	39		-	-	-	588
OCT	34	1.7	3.4	78	394	3200	.08		1.5	6.7	41		-	-	-	543
NOV	67	1.5	3.0	80	202	2500	.10		1.0	9.1	43		-	-	-	691
DEC	46	1.5	3.2	130	152	2200	.18		1.0	7.3	39		-	-	-	633
TOTAL	422	20.1	-	-	-	-	-	-	17.7	-	-		-	-	-	10636
AVG.	0.6 cu. ft./min	1.7	3.0	95	191	2800	.12		1.5	8.0	41		-	-	-	886

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